HANFORD TRI-PARTY AGREEMENT QUARTERLY PUBLIC MEETING

MEETINGS' SUMMARY

FEBRUARY 24, 1993, 6:30 p.m.
PASCO, WASHINGTON

FEBRUARY 25, 1993, 7:00 p.m.
HOOD RIVER, OREGON

Welcome - PASCO

Mary Getchell, Washington State Department of Ecology (Ecology), opened the Hanford Tri-Party Agreement Quarterly Public Meeting, welcoming the public. Getchell introduced key Ecology, U.S. Environmental Protection Agency (EPA), and U.S. Department of Energy (USDOE) representatives. She briefly discussed the meeting agenda, stating that the agenda was developed to allow for an informal exchange of information. The meeting was planned to provide a brief overview of Hanford cleanup activities. Then, small group discussions would be conducted simultaneously on the Tank Waste Remediation System, the proposed Environmental Restoration Storage Disposal Facility, Columbia River, and Hanford Past Practice Cleanup.

Welcome - HOOD RIVER

Dick Belsey, Oregon Hanford Waste Board, opened the meeting, and welcomed Hanford Tri-Party Agreement representatives to Oregon. He thanked the agencies for conducting a meeting in Oregon. The Oregon Hanford Waste Board has been very concerned about situations at the Hanford Site that are and could lead to Columbia River contamination.

Cyndy deBruler, Columbia River United, thanked the audience for taking the time to attend and caring about Hanford cleanup. She noted that such a large crowd would hopefully bring the Hanford Tri-Party Agreement meetings to the area again. She said that people should remember the meeting was for them and while small discussion groups are valuable, people could stay in one large group if they preferred.

Mary Getchell, Ecology, welcomed the public. Getchell introduced key Ecology, EPA, and USDOE representatives. She briefly discussed the meeting agenda, stating the agenda was developed to allow for an informal exchange of information. She also stated that such a large crowd was great to see and talk with. She added that with such interest the Hanford Tri-Party Agreement agencies would return to the Hood River area again. Getchell explained that the agenda was developed with Hanford public interest groups including Columbia River United and the Oregon Hanford Waste Board. The meeting was planned to provide a brief overview of Hanford cleanup activities. Then, if the group chose, small group discussions would be conducted simultaneously on the Tank Waste Remediation System, the proposed Environmental Restoration Storage Disposal Facility, Columbia River, and Hanford Past Practice Cleanup.

Opening Comments - PASCO and HOOD RIVER

Jerry Gilliland, Ecology, gave opening comments. Gilliland provided a brief overview of the cleanup activities underway at Hanford, and recent progress and challenges.

- In December, USDOE, EPA, and Ecology discussed concerns regarding an assumed leaking underground high-level waste storage tank, Tank T-101. In January, they agreed on measures to improve monitoring equipment and remove liquids from Tank T-101. The agreement also begins to define actions necessary to improve management and leak detection monitoring at other Hanford tanks. Under the agreement, by March 15, USDOE must complete preparations for emergency pumping and start full-scale removal of liquids from Tank T-101, to transfer the liquid to a double-shell tank for safe, long-term storage.

- January also marked the Hanford Tri-Party Agreement agencies' decision on schedule changes to building the low-level mixed waste laboratory for Hanford.

  As part of the proposed settlement, Ecology and EPA would not require USDOE to build the originally envisioned low-level laboratory. Instead, the regulators would require USDOE procure a service provider of an analytical lab to be built within 25 miles of Hanford.

- Also, last month, USDOE, EPA, and Ecology signed a change in the Agreement regarding wastewater discharges. The change involved changing the window of time for the stabilization run at the Uranium Trioxide Plant--UO3. UO3 was a former processing facility at Hanford. The stabilization run is now scheduled to begin in March 1993, versus September through December of 1992. The discharge rate will remain the same, 750 gallons/minute during the four to eight weeks of the stabilization run.

Gilliland highlighted the discussion topics planned for each of the small group discussions.

- The Tank Waste Remediation System is a new technical strategy that USDOE has been developing for more than a year. The objective of the plan is to develop methods for managing and cleaning up Hanford's single and double-shell tank waste.

  USDOE plans to present its Tank Waste Remediation System proposal to Ecology and EPA in March 1993. All of the alternatives being posed by USDOE involve some change to existing schedules or milestones, resulting in delays of up to 20 years in Hanford tank waste cleanup.

- USDOE's proposed Environmental Restoration Storage Disposal Facility would store and dispose of radioactive past practice waste.

agencies decided that the Hanford lab should be built within 25 miles of Hanford. We don't want delays associated with the laboratory.

- **Is there consideration to the economic impact on union workers currently at the Hanford Site who may not be employed by a laboratory build off-site?**

Ecology: The decision has to be based on bringing the facility into compliance, under the Washington Hazardous Waste Law. We are fighting a Congressional image that Hanford Cleanup exists only to create Tri-City employment.

The new laboratory will create new jobs, not replace jobs.

- **Why build the new laboratory off-site?**

The milestone says to build the lab within 25 miles of the Hanford boundary. The lab will be a new facility and it will have no impact on the currently planned on-site facility.

- **What about jobs lost from production? Can't people be retrained to fill the new jobs at the laboratory? The Oil, Chemical and Atomic Workers Union (OCAW) is upset, they want an opportunity for the replacement of lost positions.**

USDOE: We are not sure at this time whether the off-site facility will have union workers or not. To answer your concerns about lost jobs on the Hanford Site, there will be a smaller laboratory built on-site.

- **Is it true that 20% of the lab capacity is to be handled out of state?**

It's not certain at this time whether we need to go out of the state for samples. We are required to complete 80% of the lab work locally.

- **If the lab was built on-site, would 100% of the work stay on-site ?**

No, the originally planned Waste Sampling and Characterization Facility would not be able to handle all the lab samples because of radiological issues and because it would not be big enough. We would still need to send the work off-site. Currently, our samples are going to laboratories in Pennsylvania and California.

- **It seems lots of energy is spent on delaying milestones. Why not spend that energy on meeting them?**

USDOE: So far, we have met 238 milestones out of 242. Of those milestones, 16 have been changed and completed. In addition, 257 new milestones have been added to the Agreement. We don't intentionally delay the milestones, they are typically delayed because of sound, technical reasons.

The waste may be in solid form and come from soil and debris in Hanford's cribs, ditches, and trenches. USDOE proposed that the facility would be built by 1996. Ecology and EPA are concerned that will be difficult, if not impossible, given environmental laws and the federal procurement process.

- Another topic was the Columbia River. Questions regarding quality of the river and wastewater discharges were planned to be discussed.

  The Hanford Tri-Party Agreement agencies discussed plans to initiate a Columbia River impact evaluation scoping. This will help to determine what additional information is needed to determine the extent and mobility of river contamination.

- Hanford past practice cleanup, which is the cleanup of waste sites that are no longer receiving waste and have not received waste since 1980 was discussed. Past practice work plans for 1993 and Expedited Response Actions or ERAs, which are accelerated cleanups where there is an immediate or substantial threat to human health and the environment, discussed. The agencies also use ERAs when the remedial alternative is known and there are results in overall cost effectiveness.

A general question and answer period was held before the small group discussions in Pasco. The Hood River meeting did not break into small groups. The audience voted to remain in a large group format.

General Session Questions and Answers
Pasco, Washington
February 24, 1993

- **What will be taken from Tank T-101? Are the safety measures resolved at the tank?**

  USDOE: All liquids possible will be taken from the tank, and the remaining substance will be a thick sludge. A pump will be used to remove the liquids from the tank. The start date to pump the liquids is March 15.

- **Do you expect USDOE Secretary Hazel O'Leary to continue micromanagement?**

  USDOE: We're not sure at this point what to expect from Mrs. O'Leary. But as far as we know now, we don't expect her to micromanage the Hanford Site.

- **What is the status of milestone M-14, the Low-Level Waste Laboratory?**

  EPA: USDOE didn't build the lab originally included in the Hanford Tri-Party Agreement. A year ago, USDOE agreed to see if they could meet sample turnaround times with private labs. After public comment and experience, the

opportunities for the public to provide input on the alternatives. No final decision has been made yet, and no decision will be made until the public provides comments.

Questions and Comments:

- **Define a million gallons of liquid. The 7,400 gallons leaked from Tank T-101 seems large. A million gallons leaked all over is how much?**

  USDOE: To give you a perspective of the type of leaks associated with Tank T-101, 80,000 gallons of liquid would fit in this room. Imagine this room three times the size and five stories high, which is close to a 500,000 gallon tank.

- **You discussed a plan with alternatives for the Tank Waste Remediation System (TWRS) rebaselining. Will it be out this March?**

  USDOE: Yes, we intend to have it out at that time. However, with the administrative changes in Washington D.C., it is difficult to know whether we will have any delays.

- **What will be the public distribution of TWRS?**

  Ecology: USDOE will distribute the proposal to EPA and Ecology on March 31. Included in the proposal are the following alternatives: a look at the TWRS at the present time with only short delays, a two to three year delay in vitrification, and a long-term, 20-year delay with development of a full treatment system prior to disposal. The proposal will also include the Tri-Party Agreement milestone change package. If USDOE does not distribute the plan to the public, Ecology will. When USDOE formally gives Ecology information, we can and do distribute information like this publicly.

- **A 20-year delay is publicly tough to accept, given the current tank leaks.**

  USDOE: With our current technology, we can get a treatment system going, however, we are aren't sure it is the right technology to use in the long run. Developing new technologies will take time.

- **If there are delays, what will be done to stabilize the tank wastes in the meantime?**

  Ecology: We are currently looking at ways to stabilize the single-shell tanks, which could include building more double-shell tanks and/or using existing ones, and other technologies like the use of sub-surface barriers (i.e., ground freezing).

  USDOE: There are issues with continued tank stabilization. Several safety issues are preventing substantial progress in this program now. If these single-shell tanks are to go through vitrification, then a redesign of the plant is

- **A lot of money is spent on Tank SY-101. Other cleanup areas such as grout and the UO3 plant don't have the funds, so time is spent justifying technical delays.**

- **Why was Milestone M-17 changed for the Uranium Oxide (UO3) cleanout run?**

  Ecology: In January, one of the two milestones changed. The time for waste water increases was changed. This is appropriate to solve safety issues at the UO3 plant. By conducting the cleanout run, we can stabilize the materials in the plant in order to accommodate the revised schedule for the stabilization run. The original milestone allowed increased waste water flow to the U-14 ditch, the recent change modified the timing of the flows. No additional water will be discharged to the U-14 ditch as a result of this change.

Small Group Sessions

Note: Each notetaker had a different style of writing down concerns and questions. Although all the answers were not recorded, all the questions were answered in the small group session. It is important, however, to capture the concerns and questions in the small groups, which is what we've done below.

Tank Waste Remediation System
Pasco, Washington
February 24, 1993

USDOE OVERVIEW

Background: Under the Hanford Defense Waste Environmental Impact Statement, a decision was made to delay decisions surrounding single-shell tank wastes. The use of B Plant for pretreatment, as was recommended in the Hanford Defense Waste Environmental Impact Statement, was found not feasible. Also, tank safety issues surfaced after the signing of the Tri-Party Agreement. And, we have decided to retrieve all single-shell tank wastes. These issues and their impacts need to be addressed now. Currently, the Tank Waste Remediation System seeks to use an integrated approach to dispose of double-shell tank wastes. Included in this integrated approach are decisions surrounding pretreatment, grout, and vitrification.

In November 1991, USDOE began looking at a rebaseline of tank waste treatment to accommodate changes to basic assumptions and to deal with new tank safety issues. The final plan is due to the regulators on March 31. Within the plan, the three agencies are looking for the best alternatives for disposal within safety and regulatory guidelines. Frankly, this is not an easy task since characterizing, treating, and disposing of the waste is very complex.

It is a very political process. It's also important to the three agencies to allow

- **What is the ultimate volume of glass logs (How many will there be)?**

  USDOE: That depends on how much radiation is separated out in pretreatment. More out equals less canisters. The current assumption is that high-level waste will be vitrified, but it's still a question on the low-level portion.

- **What about the existing four grout vaults? What will happen to them, if grout is not used for waste disposal?**

  USDOE: We are still looking at using the grout vaults for disposal. We have only asked for the delay in construction of the future grout vaults until a decision is made with the TWRS rebaselining.

  Ecology: Our grout position is: Do not initiate a pour without Ecology approval.

- **What are you going to do with tank AN-106 once it is empty?**

  USDOE: We'd like to use the tank for storage. This is not a tank on the "Watch List". It does not have any safety problems.

- **Why is USDOE taking tank waste from a tank that does not have safety problems?**

  USDOE: We need the tank space to resolve safety issues in other tanks. Tank AN-106 is a double-shell tank and it's easier to remove the liquids from these tanks than the single-shell tanks.

- **Is the waste canister storage facility construction going to be stopped until a decision is made with the TWRS?**

  Ecology: USDOE Secretary Hazel O'Leary will review this decision.

- **What has been spent on grout so far?**

  Ecology: We estimate $170 million has been spent.

- **How many grout vaults will be constructed under the current Tri-Party Agreement grout plan?**

  44 grout vaults.

- **How many will there be if all of the low-level waste is grouted?**

  There will need to be 270 grout vaults constructed. This would cover 110-120 acres. But that is less area than the current tank farms.

necessary. We'd then have to start from the beginning on a design for this technology. There are substantial dollar costs involved.

- **Will USDOE be leaving wastes in the double-shell tanks?**

  USDOE: No, we plan to remove all the wastes in the tanks.

- **USDOE needs to revisit the policy for technology, funding, and environmental impacts regarding the tanks. Some of the wastes should remain in the tanks.**

- **It seems like the three agencies had a strategy already to deal with the tank wastes. Why do we need another one? To give more time for studies?**

  USDOE: It's important for us to be looking at the single-shell tank waste decisions, and revisit what was decided within the Tri-Party Agreement. You have a small plant with a large volume, with the added single-shell tank waste. The schedule in the Tri-Party Agreement for decisions with single-shell tank wastes goes out to the year 2004. We are now looking at making decisions this year to handle these wastes.

- **Why is grout being questioned as a disposal option?**

  USDOE: There is a grout performance assessment being made this spring to determine the long-term performance of grout, and how the entire grout system holds up within the vaults. The decision on whether to proceed will be made at USDOE-Headquarters in Washington D.C.

  Grout was originally questioned by Washington and Oregon states in 1990. The concern was with the source of the waste since some tank waste is low-level and some is high-level. Only low-level waste will be made into grout.

- **How does grout fit into the three TWRS alternatives?**

  USDOE: We are looking at options other than grout in the three alternatives. We may use grout as part of pretreatment. We're also looking at ways not to have so many grout vaults.

  Ecology: Glass or sulfur polymer are also options for the waste. They are better options because they have more integrity than grout.

- **What are we going to do with the tank waste once the waste is removed?**

  USDOE: We are currently looking at a national deep geological repository in Yucca Mountain for disposal of the waste. Congress has determined this is technically the best method for tank waste disposal. For high-level waste, the Nuclear Regulatory Commission and the National Academy of Sciences feel waste must be vitrified to be in an acceptable form for disposal.

The original concept under the Tri-Party Agreement was to process the double-shell tank waste into 2,000 logs within a six-year time frame. If pretreatment and vitrification are used on the single-shell tank waste, it will take 30 to 40 years more.

USDOE: The TWRS is a technological strategy which looks at the current milestones and how they will be affected by a rebaselining. There will be a good public involvement process which will need to integrate the National Environmental Policy Act (NEPA) public involvement.

- **The TWRS plan will be out this March. When will the decision be made?**

Ecology: USDOE has asked the regulators for a decision by August. The regulators have not agreed to that date. The draft Notice of Intent (NOI) for the Tank Waste Remediation System Environmental Impact Statement (TWRS-EIS) is at USDOE-Headquarters and has not been issued. Ecology has revised schedules that includes the environmental impact statement process which extends this rebaselining decision out five years. Near-term actions for resolving leaking tanks could be expedited.

- **Delays jeopardize continued funding. We are already seeing cleanup funding cuts. We'll never get anything done if we continually have delays.**

Ecology: That is why we have enforceable milestones under the Hanford Tri-Party Agreement.

- **Cleanup seems to be a never-ending process with no results**

Ecology: The Hanford Defense Waste Environmental Impact Statement (HDW-EIS) was based on some bad decisions. The Hanford Waste Vitrification Plant was not designed in an integrated manner. All single-shell tank wastes must be retrieved and all three agencies agree to this.

USDOE: The TWRS plans to look at all assumptions up front.

Ecology: If USDOE doesn't have to meet grout and other near-term milestones, then other issues need to be accelerated, such as building tanks.

- **Is USDOE willing to upgrade containment systems, etc., in exchange for delays?**

USDOE: We can't tell you what USDOE-Headquarters will decide. Ecology perspective: want at least original milestones intact. USDOE is sincere in efforts to involve public. TWRS will have a public involvement process. We are working toward public process deliberate effort.

- **How safe is vitrification?**

The Hanford Defense Waste Environmental Impact Statement selected

- **How can low-level repositories like the grout vaults be created? I thought Washington state citizens said "no" to permanent repositories.**

  USDOE: The citizens of Washington state said "no" to the construction of a deep, geologic, high-level nuclear commercial and defense waste repository, not grout disposal for defense waste.

- **Better technology leads to another change. Repeat that cycle and you'll never do anything.**

  Ecology: That's a good comment. How do you develop lasting technologies while still being in on new technology?

- **What type of designs are we putting into vitrification so that 200 years from now, society won't be having the problems we have now? We are making mistakes.**

  Glass logs, inside canisters are a positive technology because they can be retrieved to be placed in a repository.

- **Why put the waste form into permanent disposal if we don't know the long-term implications. Why not be irretrievable?**

  Ecology: We shouldn't make decisions for future generations to deal with our problems. Since glass is more stable than grout, glassification is the preferred option.

  USDOE: We are looking at interim storage, however, it is costly.

- **Can glass devitrify?**

  Ecology: Yes. It changes its physical structure from glass to a metal form while buried deep in the repository, isolated from the public.

- **What are you doing to store canisters at Hanford if the repository is not built?**

  Ecology: The TWRS will have to look at that question. The canister storage facility is a possible solution. It is an assumption that canisters will go to repositories. We have to ask, is it wise to build permanent storage capacity into the canister storage building?

- **I think I would rather have a bunch of glass canisters versus unstable waste in tanks.**

  Ecology: The canister costs to repositories should not be a major determinant in how many canisters are made. Anchoring decisions on the TWRS to the repository decisions is not a good idea.

healthy herds of deer, elk, and wildlife. Wildlife is monitored by Battelle.

- **Has there been contamination that exceeds state and federal limits and laws?**

  USDOE: Current discharges to the Columbia River do not exceed federal or state limits.

- **Is the Columbia River the most contaminated river?**

  Ecology: The Columbia River is a very clean river. Ecology has ambient water quality standards which apply to all rivers in Washington state. These water quality standards are required by our delegated authority to administer the Clean Water Act. The stretch of the river along the Hanford Site is Class A, which means it has excellent water quality and is suitable for all uses - drinking water, recreation, wildlife habitat, etc.

- **Oregon State recently proposed an ERA near the UO3 Plant that was rejected. The proposed ERA would have addressed the groundwater under the U-14 ditch and U-17 crib. Why was this accelerated cleanup action turned down? I'm concerned that the problem is not being treated now to keep the plume from moving.**

  Ecology: There are two mechanisms that we can use to get a cleanup action accelerated. One mechanism is an ERA, which is an action that has a limited scope - like trying to hit a bulls-eye on a target. The other mechanism is an Interim Response Measure (IRM), which is a broader scope action - like hitting the whole target. Since the groundwater plume under the 216-U-14 Ditch and the 216-U-17 Crib has several contaminants of concern, we determined that an IRM would be more beneficial than an ERA. While the ERA was turned down, the IRM is still under evaluation.

- **What do we know about Carbon Tetrachloride entering the Columbia River?**

  EPA: Carbon Tetrachloride is not entering the Columbia River and is a contaminant of concern in the 200 West groundwater. We have an ERA approved that will address this contaminant plume. We hope that the ERA will remove a large amount of the Carbon Tetrachloride from the soil column and reduce or slow the plume.

- **Are there ways to stop plume on the Site?**

  EPA: There are many ways of slowing down the plume. In the 200 Areas we are evaluating the use of slurry walls or freeze walls to slow down the plume. In the 200 Areas we are implementing the Carbon Tetrachloride vapor extraction to reduce the Carbon Tetrachloride plume.

  USDOE: We have also greatly reduce the volume that is discharged to the

vitrification. It is a proven, safe form of waste disposal. There has been extensive testing conducted.

♦ **Where's the integration at Hanford?**

This is needed at Hanford.

Columbia River
Pasco, Washington
February 24, 1993

• **There's a concern with all the studies in the Columbia River and investigations of contamination on the groundwater. Why isn't anything being done?**

USDOE: Over the years there have been a lot of individual studies conducted to determine Hanford's impact on the Columbia River. One of our challenges is to tie the studies together, see if additional work is needed and focus that work.

♦ **There's a concern with the contaminants at N Springs.**

EPA: USDOE will be doing an Expedited Response Action (ERA) on N Springs. This was part of the settlement for missing milestone M-14 on the Low-Level Laboratory. Work plans are being developed.

♦ **Where is the sediment testing being done at Hanford?**

USDOE: USDOE monitors the Columbia River sediment at Hanford. The results are stated in Hanford's Annual Environmental Report, which is issued by Battelle's Pacific Northwest Laboratories. Battelle conducts off-site monitoring for USDOE.

♦ **How will the contaminants be stopped from reaching the river?**

The major area of concern is N Springs, which accounts for more than 80% of the dose from the water pathway from Hanford. Various options are being evaluated for this ERA. Some options are the use of a slurry wall, or the use of a freeze wall.

♦ **What's being done for wildlife preservation while all the sampling and investigations occur? There's a concern about contaminant exposure to the animal life.**

USDOE: USDOE has established radiation exposure limits for aquatic organisms. Other wildlife is monitored for radiation exposures. No significant radiation exposures are found in these animals. Hanford has very

Past Practice Cleanup
Pasco, Washington
February 24, 1993

- **What will be done to the sludge when it's moved?**
- **What is the number of Operable Units now completed?**
- **What is the division of work for Environmental Remediation Management Contract (ERMC) and Westinghouse Hanford Company?**
- **What will be done with the 100 Area Reactor cores?**
- **What kinds of Risk Assessment Models are used in the Operable Unit studies?**

Environmental Restoration Storage Disposal Facility
Pasco, Washington
February 24, 1993

- **Why build the Environmental Restoration Storage Disposal Facility on the hill? Why don't you build it closer to the cribs?**

  Ecology: We want to isolate the waste from the environment (human and environmental receptors) and we want to consolidate the contamination. That area has the greatest depth to the groundwater.

- **Would you be squeezing out US Ecology by building this facility?**

  Ecology: No, the Environmental Restoration Storage Disposal Facility would be built near their facility.

- **What packaging would be used for waste going to that site?**

  Under consideration is the use of concrete vaults to line the trench. There are different types of waste, there will be various types of packaging and transportation. Drums would not be considered since they corrode over time.

- **If run-off and run-on is not a problem, why would USDOE go to the expense of secondary containment?**

  Ecology: Regulations require means of containing the leachate if a Resource Conservation and Recovery Act (RCRA) cap fails.

- **Can plans ask for variance since it is unlikely that contamination would reach the groundwater?**

soils. When you reduce the amount of water you discharge to the soil column, you reduce the driving force for the groundwater plumes and the plumes travel slower.

- **Has there been a difference in groundwater flow as a result of effluent flow reductions? Is there a decrease in seep activity? Are the seeps visible? Have there been effects in the Columbia River?**

EPA: There has been a change in groundwater flow and a reduction in travel time as a result of the liquid effluent flow reductions. Groundwater mounds are dissipating and flow patterns are changing.

USDOE: We have seen a change in the seeps over the past several years as a result of liquid effluent flow reductions. For instance, we no longer can see seeps on the side of the bank along the 300 Area and 100 Area. N Springs doesn't flow constantly. Of course the groundwater can enter the River from seeps under the river level so we think that an ERA for N Springs is still justified.

- **Where is the information on the Columbia River available?**

USDOE: We publish the results of the environmental monitoring program that is conducted for us by Battelle in the Hanford Annual Environmental Report. We measure the Columbia River and sediments around the Hanford Site and at the Richland Pumphouse.

Washington State Department of Health: The Department of Health also monitors the Columbia River water, fish, and sediments around the Hanford Site. As a result of public interest, we are expanding our monitoring network to include the lower Columbia River. In addition, the Washington Public Power Supply System monitors the Columbia River for impact that they may have on the river.

- **What are the plans for the tritium plume? How will you treat it?**

USDOE: Unfortunately, there is no treatment available for tritium. The half-life is about 12 years (i.e., half of the tritium will disappear by radioactive decay every 12 years). The groundwater that contains tritium is isolating it and it is not being used. The most effective "treatment" for the tritium plume may very well end up being leaving it alone, extending the travel time through more flow reductions, and letting it decay in place.

- **Are there new sources for tritium?**

USDOE: The only source for tritium is the contents of the double-shell tanks. Wastewater from running the 242-A Evaporator will contain tritium.

land for other uses.

Ecology: The three agencies will need to look at various future site uses to weigh with the cost of restoration. The Future Site Uses Working Group felt strongly about not creating more waste.

- **Why build this facility now? Is the problem that evident at this time?**

Rescoped work plans shaved years from the planning process and made the need to build this facility a higher priority.

- **Does the site take part of the state leased land?**

Ecology: No, we want the facility away from the highway. Consolidation of state and federal land may achieve this. We may make a land exchange with USDOE to move the facility north, partially to meet future land use goals.

- **Where will land that is currently there go? What will be done with the uncontaminated soil?**

Ecology: The only known contamination in the area is the surface area east of the US Ecology site. The uncontaminated soil will be used to restore the contaminated areas or used as barrier material.

- **Will there be radioactive and mixed waste at the facility?**

Possibly. USDOE is currently looking at soil washing as a form of treatment for the waste. Treatment will be an important part of the plan.

- **Will there be regulations for radiation levels at the facility?**

Yes. This facility will probably have problems similar to the grout vaults. There are treatability studies planned.

- **How many million curies will be in the facility when it is complete?**

USDOE: We don't currently have that data, however, we don't think it will be a million curies.

- **The proposed facility site will be 35 million cubic yards. What can you compare that to?**

The design is approximately four square miles in size. The vault area is 65 feet deep. EPA and Ecology will ensure the material is isolated from the public.

- **You're asking for problems if the three agencies are looking at capping four square miles.**

The facility's design life is up to one thousand years. We're looking at a combination of ways to deal with various waste. USDOE is looking at various options, some without the use of a liner. The long-term issue is to look at a variety of means of providing equivalent protection. The contractor standpoint agrees that alternatives are needed.

- **Is there evidence that this will last one thousand years?**

  Ecology: No, but from the taxpayers' standpoint, they'd like to shoot to put the best technology we have and hope it lasts.

- **The public doesn't want to be unsafe, but use common sense.**

  The three agencies agree. Our goal is to have the facility up and running by 1996. Decisions need to be made soon to be in compliance with RCRA standards. We don't want a long permitting process.

- **What permitting is required for the Environmental Restoration Storage Disposal Facility?**

  A sitewide permit, and a Comprehensive Environmental Restoration Compensation Liability Act (CERCLA) Record of Decision (ROD).

- **What is the minimum size of an area you'll take out and ship to the site? Are you looking at the cost versus impact?**

  Overall, we intend to move large volumes of dirt. There is extensive contamination in various areas, so the three agencies will look at alternatives for removing the dirt and transporting it to the site. The facility will be built in a phased approach--not all at once, so we don't overbuild. There will be $118 million dollars saved in sampling costs by building this facility. This is money invested in cleanup, not studies.

- **Isn't that inconsistent with the Environmental Restoration Management Contractor (ERMC) approach of a fixed price contract for work?**

  USDOE: Possibly, because the full extent of the work won't be known. We will, however, have site characterizations done.

- **What is the scope of waste to go to the facility?**

  USDOE: It will take wastes generated under past practice remediation operable units surrounding reactor sites--we don't know about the decontamination and decommissioning waste. There is a potential for reactor blocks to be built there. There is not an intent to mix the waste, but various wastes could be in close proximity to each other.

- **To clean out and close the 100 Area, we have to excavate the cribs and other sites. The facility should be built on the plateau to release the best**

government.

- **Will the facility be safe in the chosen area? Is it far enough away from the groundwater?**

  It will be 175 to 200 feet to the groundwater in the likely site. We want a place for a large development with minimal disruption to other activities. It is more advantageous to move the site further north through a land transfer. Also factored into plan is the distance of the facility from the public.

- **Does this set a precedent for other areas to get permit waivers?**

  All permit applicants have the ability to take the option of an alternative design. A waiver doesn't mean relief from the requirement. It's just a different way of meeting the objectives. There must be a basic performance standard. USDOE can apply for new EPA corrective action, with consideration given to remediating large sites. Restrictions can be relaxed to meet overall cleanup goals.

- **How old is the waste?**

  Some of the waste was created in the late 1940's, early 1950's. There is also waste created today. In fact, cleaning up waste creates waste.

- **Was there technology available at that time to deal with the waste?**

  The government looked for an area as large as Hanford with a large body of water nearby. There was not proper technology at that time to deal with the waste, and environmental regulations were not in place as well. At that time, workers thought the long-term impact of contamination to the groundwater was minimal. Now there are vast areas of soil contamination.

- **How will you prevent unrestricted access for over 1,000 years?**

  The general long-term future site use and access was debated by the Future Site Uses Working Group. They saw the 200 Area as a long-term area for waste consolidation and treatment.

- **Will there be institutional control?**

  We're trying to develop a design that will allow for less need for institutional control.

- **This will be a permanent radioactive dump.**

  The facility will have a landfill cap which will keep contaminants from spreading.

The facility will need to be well designed to contain the waste.

- **How will the facility be built?**

  Ecology: The facility will be built in phases, however, it should be constructed and ready by 1996. Ecology feels the waste should be treated before it is disposed of in the facility.

- **What happens to the waste until 1996?**

  The waste will remain where it is until 1996. Most of the waste is not causing problems now. Where there are problems, such as at the Carbon Tetrachloride site, we are removing the waste.

- **Are there a variety of vaults, or is there one standard model?**

  Three models are being considered. One resembles a standard landfill, the other two have caps covering the landfill.

- **What is soil washing?**

  A process separating the contaminants from the soil.

- **What happened to the idea of storing the waste in the 200 Area, treating it and returning it to the original area?**

  This is not an option since it would take more time and money than we have. It also is not a good long-term technology.

- **What are the three roles of the agencies in building and operating this facility?**

  USDOE will construct and operable the facility. EPA and Ecology will determine the requirements for USDOE to obtain a RCRA permit. Since most of this facility involves CERCLA cleanup, EPA is involved.

- **Citizens are confused about agency roles under the Tri-Party Agreement. Can you explain them?**

  Ecology: We have a close working relationship, and many times our responsibilities overlap. USDOE and Westinghouse Hanford Company came to Ecology for the preliminary work for this facility. Ecology wanted to get this information out to the public as soon as possible. To get this operating by 1996, the work needs to begin.

- **If the City of Richland decided to build a landfill, do they have to go through the same process as USDOE?**

  Ecology: Yes, they follow the same regulations, but at different levels of

transportation canisters? Is there an archiving lab?

We don't know who's trucks will be used. U.S. Department of Transportation (USDOT) has shipping regulations for hazardous materials. Samples are currently sent cross-country commercially. USDOE has a central archiving point.

- **I have a concern about whether Richland and regulators know exactly what is in all the tanks so they can proceed with cleanup.**

USDOE: No, we have a pretty good idea of what's in the tanks. Sampling of the tanks is on-going. Safety is important when it comes to the tanks.

- **Is the Uranium Oxide in liquid form? Do you separate it to powder? This is not a good source of uranium. What is the advantage in this?**

When the uranium oxide is in liquid form, it can travel easier. It is much more stable when processed.

- **The way it is now is it more stable? When in powder form, could you sell this to other countries for weapons?**

USDOE is not planning to or currently doing this, but it might to sold to other countries for use in their nuclear reactors.

- **The three agencies signed off on restarting the Uranium Oxide (UO3) plant without public involvement. There are issues with groundwater and soil. Why didn't that go to the public?**

The package went to the public and set discharge requirements and limitations on the stabilization run, which was to be completed by December 1992. USDOE had problems with the stabilization run and did not complete it on time. USDOE asked to move the discharge "window" to this spring. There is no change in the agreed upon discharge limits.

- **Deadlines need to be completed when they are agreed upon. Issues came up from the Oregon Hanford Waste Board which dealt with discharges from UO3 Plant. The public needs to understand what's going on. The three parties needed to get public input before the change was made.**

- **Assurances have been made that the process condensate is pristine water coming from plant. Why can't the water be recycled? We don't want discharges into Columbia River. There should be a requirement for USDOE to see what could be done with the water.**

These are non-contact cooling waters. B Plant is among these. There is a rerouting study required for UO3.

- **EPA and Ecology rejected recycling the water because the material**

GENERAL QUESTION AND ANSWER SESSION
HOOD RIVER, OREGON
FEBRUARY 25, 1993

- **I saw a newspaper story on this meeting. Do ten people have to come to this meeting? (The story listed 10 who would be attending.) Other major issues are explained by one person. How much does this meeting cost?**

- **Don't compare cribs to septic tanks. Liquid discharges at Hanford must stop.**

- **Will a summary of the small group discussions be done?**

  Ecology: Yes.

- **Does anyone know where the Low-Level Laboratory will be constructed?**

  There is no location selected at this time.

- **Won't taking the samples off-site create a transportation problem? You should keep within the Tri-City vicinity. Why not build on-site?**

  Department of Health: Once the location is sited, regulation of the samples increases, and Nuclear Regulatory Commission (NRC) licensing requirements start. The State Patrol takes care of monitoring transportation.

- **The way the postponement of the USDOE lab was presented was unclear. I'm concerned about what will be done with tank waste. If regulations are put in place to put in labs, they should not be ignored. USDOE needs to follow regulations for building the low-level waste laboratory.**

- **In 1989, the three agencies agreed a low-level lab would be built. In 1992 the decision changed. What happened? This seems to be an ongoing pattern.**

  When the laboratory was being designed, USDOE raised the question of using private labs. USDOE decided with the regulators to get an off-site lab, while using contractors.

- **It shouldn't take five years to consult regulators about an issue.**

  EPA: We became involved with this issue in June 1991, and spent time negotiating trying to make best of situation. We believe a good lab situation is coming. The lab will run higher-level samples than originally planned. As part of the laboratory settlement, USDOE will conduct an ERA at N Springs.

- **How will the transportation of samples be controlled? In the control of off-site labs? What about safety issues? How will you get rid of samples once they are tested? Who's trucks are used? Who pays for**

Ecology: Tank T-101 is assumed to have released 7,400 gallons.

- **USDOE is proposing changes to the Tri-Party Agreement, with the TWRS. The public needs to be able to propose changes too, and that needs to happen now. Does the public have that same right?**

Ecology: We represent the public in the negotiations. We'll be here later this year when we receive USDOE's proposed changes on the TWRS rebaselining. We expect to be here between March and August.

- **Why aren't the public and regulators being proactive in telling them, USDOE, what we want to do? Why is USDOE telling us what to do?**

Ecology: Ecology has communicated our cleanup criteria to USDOE. We do not design the facilities.

- **Is there more involvement on cleanup or production?**

USDOE: The Hanford Site mission is cleanup. No production is taking place.

- **Regarding the Low-Level laboratory, who is working there, doing analysis, paying the people doing the analysis?**

USDOE: Westinghouse Hanford Company (WHC) is paid through government cleanup funds. WHC does the work for USDOE on-site.

- **Does anyone else see the results of the testing? How could I find out the results of the testing? Can I call Ecology or EPA to receive copies?**

Ecology: When given to Ecology, it's a public document. We can give you copies.

- **How do we know you'll be objective with the testing results. Some gauges are wrong. Are you telling us the truth? Those devices need to be up and working. Separate from lab analysis.**

- **How do you know the devices will be working correctly?**

Washington State Department of Health: The Department of Health does a lot of monitoring on food, air, and water samples. We receive information from Battelle too. We have not found errors in data that Battelle has put out, and we check their samples with Department of Health's samples.

- **The public has the ability to change things. Health and safety are important. A recent report said three million of curies of thorium were released to the air. What are the human health effects? I heard that thorium is coming from Hanford. You need to make sure the public has confidence in what is being done for safety at Hanford.**

(piping) is inadequate. If piping is the issue, how much would it have cost? There are unknowns to the discharges of U14. If millions of gallons of contaminated water are discharged, people down river will be affected, not those at Hanford. People need to have input into the system. The discharging mound under the U-ponds has dropped ten feet. Since it has dropped, the travel time is longer and radionuclides can decay faster. I'm concerned about contamination moving toward the Richland water supply. What are your best estimates?

Historical records and estimates are best estimates.

- **Could anything hold up UO3 start up dates in March? Will there be delays?**

- **If you don't know what to do with wastewater, just wait until you do know how to dispose of it, don't just dump it.**

If the metal stays in the facility, it's more of a risk.

- **We need more organization between EPA, USDOE, Ecology, and Oregon, and everyone busy working together on one problem. Right now there is no output, you are spending money, and we're getting no answers.**

- **Out of all the sites at Hanford, have any been cleaned up?**

EPA: Yes, but not very many. Three or four have been cleaned up, and will be done next month. We have larger tasks in front of us that are heavy on paper in the front end. We're trying to accelerate the process. ERAs and RODs have been occurring.

- **How is the new secretary for USDOE going to work out?**

We've received some positive indications that she will work out fine.

- **What's the status of the Environmental Remediation Management Contract (EMAC)?**

USDOE: The award was made, and protests were forwarded to the General Accounting Office (GAO), so everything is on hold. Since the protests were filed, we cannot proceed with the contract until a decision is made. The contract will be implemented in May.

- **Thank you for listening to us. I liked the meeting ads. I have more suggestions I'll send to you.**

- **Regarding leak detection, when is sampling going to occur for Tank T-101? The three agencies need to look at management type improvements in trying to look at data.**

noted two problems: cleanup activities discharges and why facilities are electric and not water-cooled. Had 10 months to work on this.

- **People want to create solutions. You need to record these meetings. It is your responsibility to write a summary on every single meeting and transcribe the meetings. How many solutions did you hear tonight? You need name cards to state who is talking. You need to coordinate more between the agencies. You need to communicate within and to agencies to be effective. For all issues to be resolved, you need to work together. Don't point fingers, organize.**

- **Written summaries will be much better so the same questions aren't asked twice. Is this meeting recorded? If so, say so.**

  Ecology: According to the Tri-Party Agreement, summaries are written on quarterly public meetings. The summaries will be placed in the Hanford Tri-Party Agreement Public Information Repositories and a copy will be sent to each of you who signed-in on the sign up sheet this evening with a complete address. We are not tape recording this meeting because we have heard previously from audiences in the Hood River/White Salmon communities that you did not want all that gear at the meetings. However, you make a good point and the agencies will consider tape recording these meetings in the future.

- **The three parties need to meet with the public on an issue by issue basis. You need to come visit more often and listen to what people have to say.**

- **Regarding nuclear waste, what are we doing with the stuff leaking out of the tanks? How is that being addressed?**

  USDOE: Once it leaks into soil, there is no practical way to get it back. We're looking at relocating waste to double-shell tanks to try to get it before it goes into the ground.

  ECOLOGY: If the tanks are leaking, we'll try to get pumping done as soon as possible.

- **Is the liquid being pumped from Tank T-101?**

  The date to pump is scheduled for March 15.

- **How will you make the waste less flammable while pumping?**

  With ferrocyanide in the tank, we need to keep the moisture level above 20% -- 101-SY and 103-SY are two tanks where we could not transfer waste out.

- **If you only have 30,000 gallons of waste, you only need that large of a tank.**

Department of Health: There are zero curies of thorium coming from Hanford. The Department of Health regulates the air pathway for radionuclide releases. There is no data indicating thorium releases, only naturally occurring thorium. We monitor and audit the air pathway.

- **There seems to be a desperate need to upgrade and to repair gauges in the tanks.**

- **Did USDOE meet the milestone for the groundbreaking for Hanford Waste Vitrification Plant (HWVP)? Also, would Hanford become the permanent repository for other high-level waste?**

  USDOE: The groundbreaking occurred in April 1992. Next month concrete is scheduled to be poured. Yucca Mountain is where high-level waste might go. The State of Washington is opposed to high-level of waste going to Hanford. Yucca Mountain is to be characterized for the repository.

- **Why aren't our legislators here? If they are our decisions-makers, we need them here. There are no elected officials here.**

  Ecology: All state and local officials receive notices of these meetings.

- **Regarding the Wyden Report, USDOE and Westinghouse Hanford Company (WHC) said they would take care of the problems with tanks. Wyden recommended taking the contract away from WHC. I am appalled with WHC still being in this business with the award fee report.**

- **I hear the denial that radioactivity is damaging to our health, and is in fact, good. Statements are being made to bring health physicist to look at Plutonium Finishing Plant (PFP) - good to look at health and safety. There are serious health risks when the nuclear industry is denying this problem.**

- **Regarding transportation - if we have the material on the road, we're going to have serious problems.**

- **The public distrusts the Westinghouse Corporation. Don't take this personally. I'm not trying to hit anyone personally. It's important to tell the federal government and corporations we're tired of problems.**

- **It's very important that we ask agencies to tell legislators, politicians, officials that this will not do - need to talk to everyone to speak out on these issues - make everyone accountable. Public has lost control of government - make a stand, make others accountable.**

- **Because of public's efforts, Department of Health is looking at water samples in river farther downstream to make sure the water is safe. The public has had a big opportunity and a big role in seeing the water being sampled and tested. Heart of America, Northwest in the Ecology affidavit**

We're trying to streamline and accelerate the process. We have had some ERAs. Three or four are at one stage or another.

- **The proposed Environmental Restoration Storage Disposal Facility is an insult to the Future Site Uses Working Group, coming so soon after they finished their work.**

- **Why were monitors at T-101 broken for several months?**

Ecology: As regulators, we are upset about the situation. We're also upset that it took several months for USDOE to tell us about the problems.

USDOE: The problem is that the equipment is old and hard to maintain. There is lots of checking of the equipment by workers, but they were not believing what they were reading was correct. We need to improve.

- **Replace it. You have to fund new equipment. Why hasn't technology kept up? It should. A lot of money is being spent.**

- **I'm alarmed with the Heart of America information. I know their information is researched. Why is the PFP classified if cleanup money is used on it? Why is UO3 cleanup being done without public input? Why will 180 million gallons of wastewater go into a ditch? It's just adding to the problem.**

USDOE: It's because there are criticality concerns with the UO3 facility and we have to stabilize materials in the plant. We would listen to alternatives.

- **Are you planning to just clean out UO3, then decommission and decontaminate it?**

USDOE: Yes.

- **What will happen to the produced material? You should know.**

USDOE: We don't know.

Ecology: There is a lot of uncertainty.

USDOE: It is a national policy issue. You should use forums like the Washington State Nuclear Waste Advisory Council and Oregon Hanford Waste Board, and letters to Congress to tell your feelings on the issue.

- **Who owns the uranium produced?**

The U.S. Government.

- **I have a concern with Westinghouse Hanford Company (WHC) or USDOE profiting from the uranium produced.**

- **Somebody should have built a tank years ago to handle the single-shell tank waste.**

- **Why don't you want waste frozen? Look at the technologies.**

- **There's no other place to store the waste? 30,000 gallons is not that big. Perhaps a tanker truck could move it out.**

- **Has USDOE stonewalled cleanup?**

  Ecology: No, but we are not satisfied with the progress made. They have made some improvements, but it's a long, complicated process.

- **Is USDOE leading the way or dragging its feet?**

  Ecology: We'd like to see more progress, dragging feet sometimes occurs.

- **UO3 - 16 million gallons of wastewater to be dumped on warm-up run, millions more to be dumped. 440 billion gallons already dumped. If it is uncontaminated water, why don't we pipe it into the river, rather than pushing contaminants into the river? Vitrification is not proved for the amount of contamination it will cause. How much money has been spent? How much money has been spent on grout vaults that now may not be used?**

  Ecology: $170 million on grout (construction, material), $270 million on vitrification (site preparation).

- **What is the Savannah River Site vitrification status?**

  Ecology: No vitrification is on line yet. We're learning not to count on only one treatment facility.

- **You don't know the entire aquifer situation under the Site. We can't assume. Don't gamble.**

  EPA: We're looking at going to the river in the 300 Area. We want to avoid the problem of potential impact to river.

- **At one of the other plants, they put waste in a tank, filtered and recycled it. They reduced waste by 30%.**

- **What about years of dealing with this extra water? How can you compare at U-pond, superimpose it on the natural system. I have a concern about what's happening in the mountains.**

- **Of 12,000 hazardous waste sites, has any single site been cleaned up?**

  EPA: Yes, but not many. Bigger tasks area coming that are heavy on paper.

problem, there is failure to take action, and a long-term impact. Why isn't Ecology leaning on USDOE?

Ecology: We are. With the leaks at Tank T-101, we took the opportunity to detail the problems. We wrote the report to Wyden. What's lacking is USDOE's want to move forward.

USDOE: We probably need a kick in the butt.

- **What about the proposed incineration of nuclear waste at Hanford? What about chemical waste? What airborne releases will be created?**

Health: We will enforce air standards - Best Available Radiation Control Technology to no risk off-site. There have been preliminary meetings, but no permit has been issued.

Ecology: Under Washington state law, a private company decides if one is needed, and asks for a permit from Ecology. Chem Waste, Inc. submitted a Notice of Intent to Ecology about a year ago to build on state leased land at Hanford. USDOE said the incinerator wouldn't meet terms of the lease because it wasn't nuclear related. We have left the issue with legislature. The land transfer from USDOE to the State Report is going to the Governor.

- **What is the timeframe for Hanford cleanup?**

The Tri-Party Agreement is under a 30-year schedule. We aren't behind at this point. The proposal to deal with tank waste could extend the timeframe because we are breaking new ground. The state insisted on dates.

EPA: We believe the rest of cleanup is on schedule.

- **Do you talk to the Yakima Indian Nation? I'm very concerned about the river and what is happening to it. I hear a land deal is going on with the Yakimas.**

USDOE: We have grants with tribes, and we have involvement in various activities.

Ecology: We have frequent contact with the Yakimas. The have a representative on the Nuclear Waste Advisory Council.

The Pasco meeting concluded at 10:30 p.m. The Hood River meeting concluded at 10:00 p.m.

USDOE: WHC and USDOE do not profit from the sale of materials. If materials were sold, the money goes to the national treasury.

- **This won't stop as long as Department of Defense and USDOE keep feeding each other.**

USDOE: The materials are not stable currently. We want to separate and stabilize them. We're not processing to weapons grade material.

- **How will it be stored?**

It will be stored on-site.

- **Regarding the plutonium extraction process, is there a risk to the public? How does this rate with other health risk, the risks of tanks, groundwater, etc? Or is this being done because you want the plutonium?**

USDOE: We don't need plutonium. There are more immediate health risks to the people working in the facility than there are from single-shell tanks.

EPA: We had questions when USDOE came to us with the request for the stabilization run. We brought in a health physicist to see if there was a real problem. He said there was a problem. He didn't compare it with the tank risk.

- **There are problems with priorities on funding. Take a look at stabilization versus buying new gauges.**

- **We're here because we want to make a difference. We don't have to take issues to a corporate level, we can make a difference personally every day. If government agencies are controlling the scene, subvert it.**

USDOE: If we can do it, we should.

- **I've spent six years working on Hanford issues, four weeks ago I got a notice on a possible advisory committee for USDOE. Meeting last week, USDOE-RL manager John Wagoner spoke on past problems - the lack of information to the public, and the lawsuits. I felt doors opening, and USDOE seeing they will learn from involving the public. The Nuclear Regulatory Commission (NRC) decided to hold open meetings. I got to go to a meeting in San Francisco last week. I felt the door open. It will stay open, but we have to be vocal and stay vocal. Health and environment need to stay the number one priority.**

Ecology: We're also seeing a change in USDOE's concern and interest in public involvement during the last several years.

- **There are reports of complication with Hanford mixed waste tanks, the Wyden report. USDOE oversight is ineffective, this is a serious on-going**